San Francisco Bay Subtidal Habitat Goals Project

Public Workshop

Oct. 24, 2007

Agenda for Today

- Welcome and introductions
- Overview of Goals Project and Process
- Milestones and Timeline
- Questions and Discussion

The Subtidal Habitat Goals Project is…

A collaborative interagency effort to establish a comprehensive and long-term vision for research, restoration, protection and management of the subtidal system of the Bay

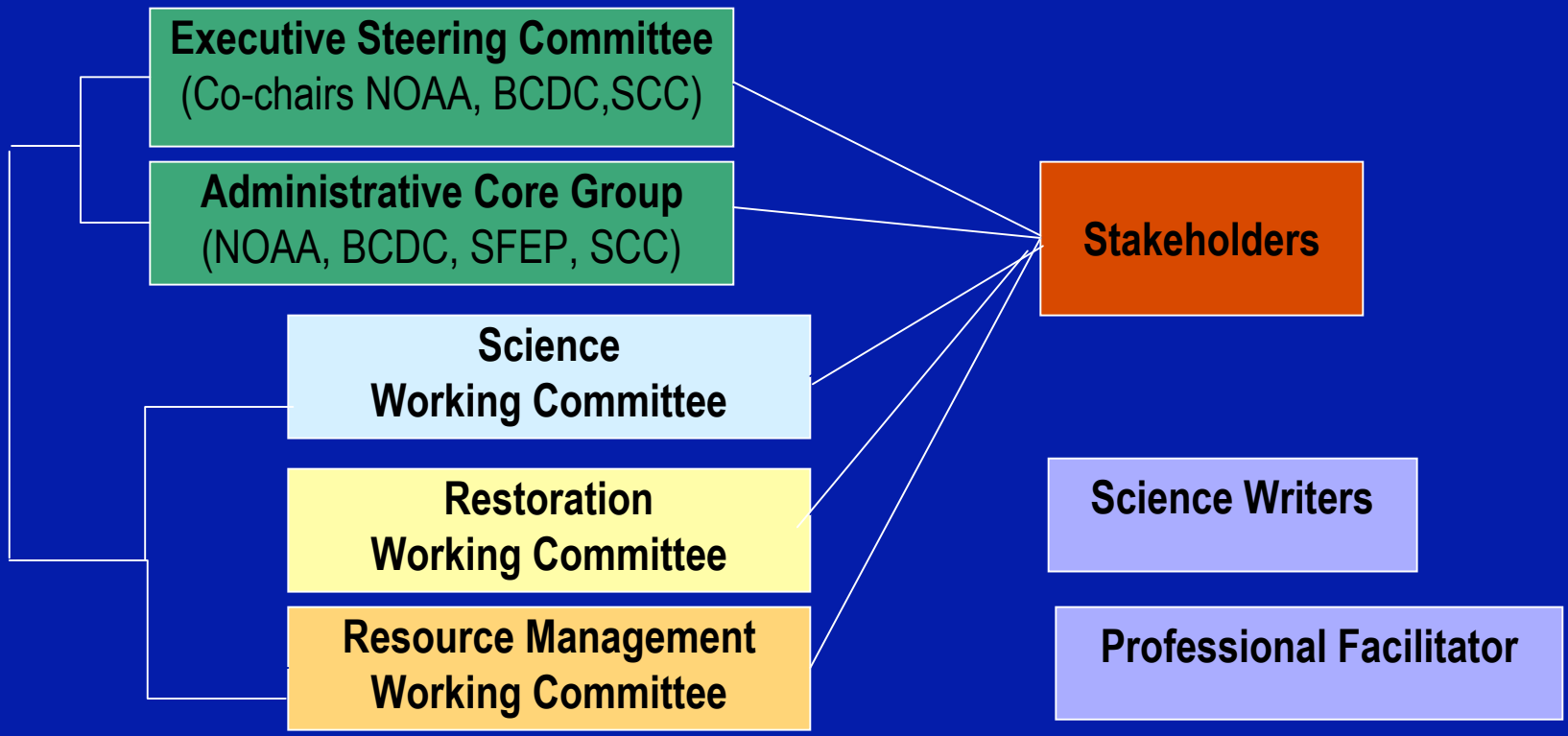
Project Vision Statement

Over a 50 year horizon, achieve a net improvement of San Francisco Bay subtidal ecosystem function through restoration, science and management

Net improvement includes:

- Optimize the mix of subtidal habitats
- Increase native species richness and abundance
- Increase understanding of the physical and biological processes that affect subtidal habitats and species

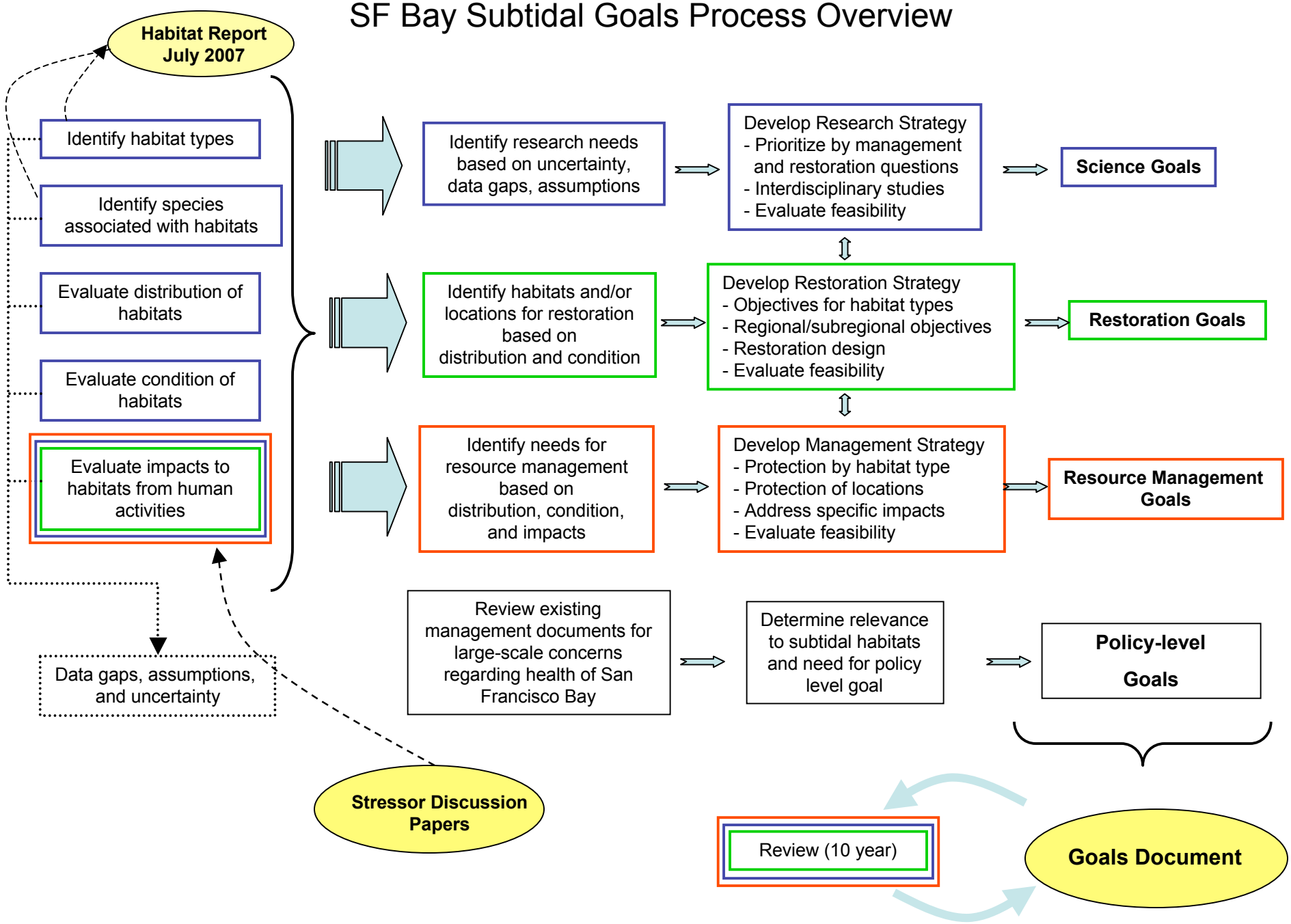
Subtidal Goals Project Organization



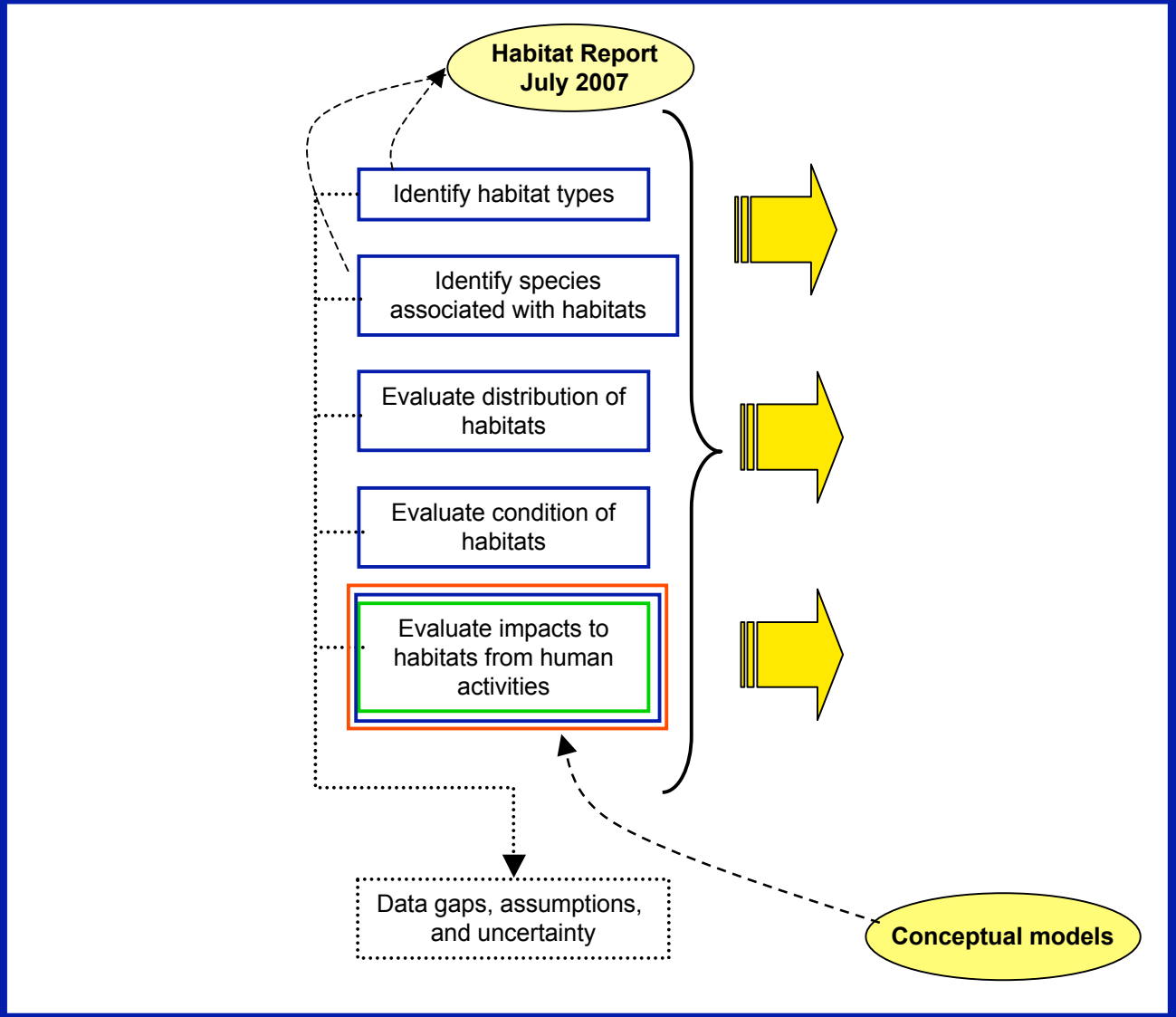
What Will The Goals Look Like?

- Focus on Habitat Types
- Non-Regulatory
- Specific and Detailed
- Ambitious

SF Bay Subtidal Goals Process Overview



Baseline Information



Habitat Information

- Identify Habitat Types
- Identify Associated Species

- Identify Existing and Desired Abundance
- Identify Existing and Desired Condition

Habitat Type	Existing Distribution/Abundance	Abundance (0-5%, 5-10%, 10-20%, >20%)	Abundance Certainty	Trend (unknown, inc, dec, stable)	Desired Distribution/Abundance
Unconsolidated Bottom					
Mud/Silt/Clay	South Bay away from main channels, Suisun Bay, Honker Bay, Grizzly Bay, northern part of Richardson Bay, northern San Pablo Bay, Corte Madera, San Rafael, Berkeley Flats, Hunters Point and south close to shoreline, south of Dumbarton (except channels), ch	>20%	High	Unknown (sediment supply dynamic, high seasonal variation, trend detection difficult)	Unknown
Sand	Central eastern shore (Berkeley, Albany), Alameda (Crown Beach), Carquinez, Central Bay, south of Bay Bridge, adjacent to Honker Bay, and Suisun, Pinole,	10-20%	Medium	Unknown (accuracy of surveys?)	Unknown
Shell mix	East of SF and San Mateo shoreline, south of San Mateo Bridge (southern side of Redwood Creek), offshore of Oyster Point (shoal), around San Bruno	0-5%	Medium	Unknown	Status (at least)
Pebble/Cobble/Gravel	Central Bay, in strongest tidal current areas, in channels, headland areas (Alcatraz, GG Bridge, Point Bonita), some in sand mining lease areas, Raccon	0-5%	Low	Stable or Decreasing	Status (at least)
Hard Substrate (natural)					
Boulders	All around rocks, outcroppings, at footings, around western bases of San Mateo and Dumbarton bridges	0-5%	High	Stable	Status (at least)
Rock Faces/Outcrops	Central Bay, near straits (Raccoon, Carquinez), inside Golden Gate (around Fort Baker), Fort Point, south of Golden Gate, Angel Island, Alcatraz, Brothers, Red Rock, Brooks, and all islands	0-5%	High	Stable	Status (at least)
Low Relief Bedrock	Central Bay, near straits (Raccoon, Carquinez), inside Golden Gate (around Fort Baker), Fort Point, south of Golden Gate, Angel Island, Alcatraz, Brothers	0-5%	High	Stable	Status (at least)
Hard Substrate (artificial)					
Vessels/structures	*NOAA Charts*			Stable	Decrease
Pilings	*NOAA Charts*			Increasing	Decrease
Rip Rap	*NOAA Charts*			Increasing	Decrease
Pipeline	*NOAA Charts*			Increasing	Decrease
Shellfish Beds					
Oyster Beds	Mostly intertidal , one or two subtidal; off Bair Island, along southeast Bay between San Mateo and Dumbarton bridges *(T. Grosholz data, 1890 USGS*	0-5%	Low	Decreasing	
Sub Aquatic Veg					
Algal Bed	Intertidal to subtidal, Gracilaria on subtidal soft substrate and not attached in and around eelgrass beds, Ulva on mudflats (on small substrate in shallow	0-5%	Low	Generally increasing (Gracilaria increasing at	
Eelgrass Bed	Richardson Bay more than 2003, Point Molate gone since 2003 (*Merkel data*)	0-5%	High	Increase in Richardson Bay, Decrease at Point	Increase
Surfgrass Bed	Golden Gate channel, possibly islands	0-5%	Low	Unknown (dependent on wave action and turbidity)	
Widgeon Grass Bed	DWR	0-5%		Unknown	
Sago Pond Weed Bed	DWR	0-5%		Unknown	

Habitat Type	Key Functions/Attributes	Evaluator	Benchmark	SubEvaluator Current Rating	Combined Current Rating	Certainty	Desired Rating
Algal Bed	Primary productivity	algal biomass	vg=good invert/fish habitat, no negative effects to eelgrass ; g= ;f= ;p=negative effects of eelgrass		fair	unknown	good
	Resource areas for:						
	fish						
	birds						
	mammals						
Eelgrass	Decreases erosion by dampening wave action, preventing sediment resuspension, increasing sedimentation	mean plant density			good	Reasonable	very good
		total acreage			fair	unknown	very good
	Primary productivity	mean plant density			good	Reasonable	very good
		total acreage			fair	unknown	very good
		productivity rates			good	unknown	very good
	Attachment for sessile organisims	mean plant density			good	Reasonable	very good
	Resource areas for:						
	fish				fair to good	Reasonable	Good
		Pacific herring IEP relative abundance (age-0)	vg>500; g=200-500; f=100-199; p=0-99	Poor			
		Pacific herring spawning biomass (adults)		Very Good			
	birds						
	mammals						
Surfgrass	Decreases erosion by dampening wave action, preventing sediment resuspension, increasing sedimentation						
	Primary productivity						
	Attachment for sessile organisims						
	Resource areas for:						
	fish						
	birds						
	mammals						

Stressor Information

- What are the major stressors?
- What are the activities that may cause those stressors?
- What is the impact of those stressors on each habitat type?
- Where are stressors?

Key Stressors

- Change Nutrient Inputs
- Place or Remove Structures
- Change Sediment Inputs to Water Column
- Remove or Disturb Bottom Sediments, Shell or Bedrock
- Increase Contaminant Inputs
- Other Large-Scale Stressors

How do we get to goals?
Identify Priorities

- Information Gaps / Area of Uncertainty
- Increase Distribution or Abundance
- Improve Condition or Function
- Protect Habitat from Stressors

How do we get to goals? Develop Strategies

Science:

- Prioritize by management and restoration questions
- Interdisciplinary studies, scope, timeline

Restoration:

- Baywide/regional/subregional targets
- Restoration techniques, cost, and feasibility

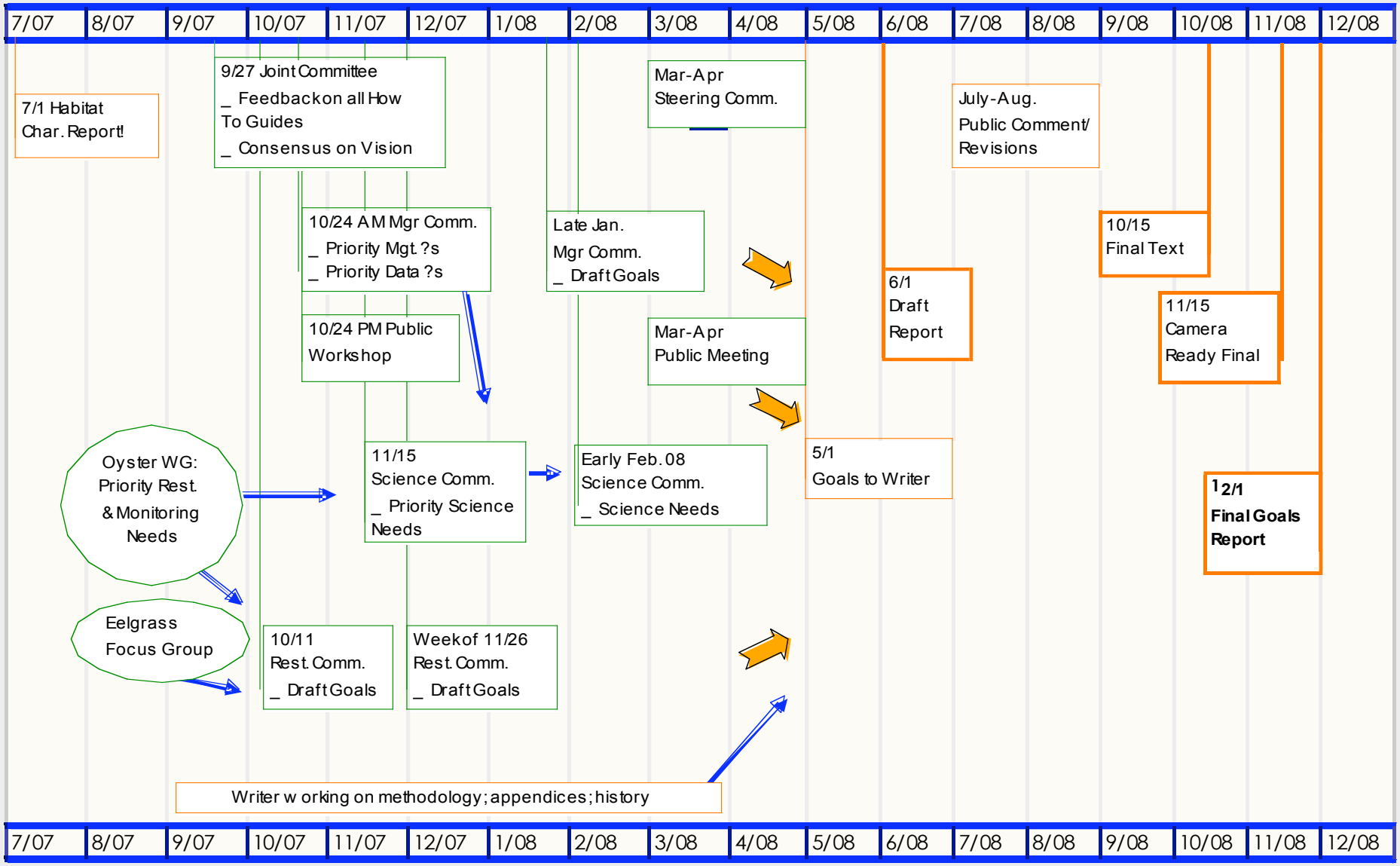
Management:

- Evaluate severity, scope and irreversibility of stressors
- Baywide/regional/subregional protection targets

Product Development and Process

- Final Report Outline
- Product Design Assistance from NOAA CSC
  - Gain understanding of information and products that meet audience needs
  - Develop range of product formats and delivery options
- Website and Newsletter
- Timeline

Subtidal Goals Project Timeline



Key: Orange = Work product; Green = Meeting

Upcoming Meetings

• Public Workshop	10/24/07	Mar-Apr
• Management Working Committee	November	Late Jan
• Science Working Committee	11/15/07	Early Feb
• Restoration Working Committee	~11/26/07	Early Jan
• Joint Committee		March
• Steering Committee		Mar-Apr

www.bcdc.ca.gov under “Special Programs”

Questions??